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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This office action is in response to the amendment filed on 01/30/2009.
2. Claims 2-11, 13-15 and 18-19 are pending.

Response to Amendment

3. The 35 U.S.C. 112 first paragraph rejection has been withdrawn due to the amendment.

Response to Arguments

4. Applicant's arguments have been fully considered but found unpersuasive.
5. For claims 18 and 19, applicant argues that the prior art does not teach storing an application descriptor at a server and a representation of configuration settings of each computing device, and generating a resource ID. The examiner respectfully disagrees. Sudharshana-Multer does teach an application descriptor as a data structure at a server (*data structure* to maintain association among devices, applications and application resources such as configurations of folders, items, and item fields, as in Multer, fig. 12, 13, [0241], Sudharshana, fig. 3, update the client configuration database at the server) for a representation of configuration settings of each computing device (Sudharshana, 3.9 and 3.11, fig. 3, update the client configuration database at the server, and configuration resources for each device). Sudharshana also shows an application patch generator for generating a patch appropriate with a client configuration

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(3.11, generating a patch including patch ID for a respective device after identifying the device, fig. 3, authentication verification)

6. Arguments on claims 5 and 10 are unpersuasive for the same rationale given above.

7. For claim 9, applicant argues that the prior art does not teach a device identifier. Applicant seems to argue that each device has a unique identifier and it's not a device model ID. However, the claim clearly states "a second unique identifier specifying *at least one* computing device." Therefore, there is nothing in the claim that requires the second identifier to be a unique device ID. As a result, the model ID still reads on the second unique identifier (Sudharshana, 3.11). Furthermore, for argument purpose, the examiner submits that the prior art does teach the server provides device authentication and verification before providing the device with appropriate patch update information. The authentication requires a device information or ID that can be read as second identifier (Sudharshana, fig. 3, 3.13, package 1, client authentication credentials for identifying the client). The prior art also teaches a configuration database for *each* client, inherently involves client identifying information (Sudharshana, fig. 3 client configuration database)

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2-8, 10-11, 13-15 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Consider claims 5, 10, 18-19, the claims recite “a collective behavior of a mobile device”. There is no meaningful interpretation found for “a collective behavior of a mobile device” in the specification. It is vague what is meant by “a collective behavior of a mobile device”. What does collect behavior and what is a behavior? Correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 18, 19, 2, 3, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudharshana et al. (OTA Mobile Device Software Development, hereafter Sudharshana), in view of Multer et al. (US 2002/0040369, hereafter Multer)

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13. For claim 18, Sudharshana discloses a method for representing a distributed software application comprising:

deploying a distributed application in a network, the distributed application governing a collective behavior of computing device(s) (3.2, application version can be distributed to a particular type of device), the computing device(s) having respective resources for the distributed application (3.8, patch profile, versions and resource information, versions and software applications on the mobile equipment ME)

storing information on a server accessible by the computing device(s): a list of all resources necessary for the distributed application (3.9, 3.11, all resources (patches, versions, model, and resources requirement) for installation of the patch for each application at the participating device; fig. 3, package 2, 3.13, package 2, server sending a patch and patch description to a device), and representation of configuration settings for each computing device participating in the distributed application with respective resources for the distributed application installed thereon (3.8, configuration of a terminal ME, fig. 2, 3.9, 3.11, Management Information Base in the server, storing information for each terminal, and accordingly patches that the ME needs to download, fig. 3, update the client configuration database at the server)

managing all resources for the distributed application and automatically configuring the computing device(s) using the stored information (3.11, automatically generating a patch to be installed on a ME using the stored MIB information), including generating a resource identifier for a respective resource to be installed on a respective computing device from the stored information (fig. 2, 3.11, patch generator generates a

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unique ID to a new patch generated—resources to be installed on the ME) and an identifier of the respective computing device (3.11, ME ID).

Sudharshana does not explicitly disclose storing an application descriptor for the distributed application.

However, Multer discloses using an application descriptor or an object hierarchy *data structure* to maintain association among devices, applications and application resources (such as configurations of folders, items, and item fields) (fig. 12, 13, [0241]).

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Sudharshana and Multer to implement an application descriptor as a data structure as disclosed by Multer to efficiently manage device-specific application resources.

14. Claim 19 is rejected for the same rationale as in claim 18.

15. For claims 2, Sudharshana-Multer further discloses the application descriptor is stored at a network node, the network node performing administrative tasks with respect to the distributed application (Sudharshana, fig. 2, 3.9, 3.11, MIB in management server for deploying patches for applications to mobile equipments, Multer, fig. 9B, data center for synchronization).

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16. For claims 3, Sudharshana-Multer further discloses the application descriptor is used for at least one of configuration, deployment of the distributed application (Sudharshana, fig. 2, 3.9, 3.11, MIB in management server for deploying patches for applications to mobile equipments).

17. Claims 13 and 14 are rejected for the same rationale as in claims 2 and 3 respectively.

18. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudharshana and Multer, further in view of Caufield et al. (US 2007/0177571, hereafter Caufield)

19. For claims 4, Sudharshana-Multer does not explicitly disclose the distributed application is installed on a network including an application server, a middleware server and a mobile device.

Caufield discloses the distributed application is installed on a network including an application server, a middleware server and a mobile device (Caufield, fig. 1, application server, access server and mobile device)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Sudharshana, Multer and Caufield so that deployment scheme of Sudharshana-Multer can be applied to a network structure of Caufield so that

the system is more reliable by having better scalability and fail over capability.

20. Claim 15 is rejected for the same rationale as in claim 4.

21. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chasman et al. (US 2007/0180075, hereafter Chasman), in view of Caufield, further in view of Sudharshana.

22. For claim 5, Chasman discloses a method for representing a software application operating within a mobile environment, the software application including collective behavior of a mobile device a middleware server and a backend server comprising:

specifying a behavior for the mobile device (fig. 4, receiving update request including user inputs at the device);

identifying at least one first resource to be associated with the mobile device, at least one second resource to be associated with the middleware server and at least one third resource to be associated with the backend server as a function of the specified behavior for the mobile device (fig. 4 and 7, [0024], [0031], identifiers for resources (versions of application objects) at the mobile device, the application server and the master database, after receiving the update request, determining resource or data to be synchronized by comparing the update request with the master database and send the synchronized data to the client device);

Chasman does not explicitly disclose:

storing an application descriptor, the application descriptor describing the association between the first resource, the second resource, the third resource and, respectively, the mobile device, the middleware server and the backend server;

However, Caufield discloses:

storing an application descriptor, the application descriptor describing the association between the first resource, the second resource, the third resource and, respectively, the mobile device, the middleware server and the backend server ([0024] lines 1-7, [0028] lines 6-21, [0026], association between the user ID and device ID and component or resources that the user device is allowed to synchronize with the master database)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Chasman and Caufield to utilize the role-device-component relationships of Caufield to allow users and devices to efficiently access resources in the synchronization process.

Chasman-Caufield does not disclose a representation of configuration settings for each mobile device participating in the software application; and wherein the representation of configuration settings includes resources that are currently installed on a respective mobile device with respect to software application.

However, Sudharshana discloses a representation of configuration settings for each mobile device participating in the software application; and wherein the representation of configuration settings includes resources that are currently installed on a respective mobile device with respect to software application (fig. 2, 3.8, Version and resource information, 3.9, Management Information Base (MIB) in the server, storing information for each mobile equipment ME, and accordingly version and resource information of ME application so that patches or resources can be generated for deployment to each ME, 3.8, configuration of a terminal ME, fig. 2, 3.9, 3.11, Management Information Base in the server, storing information for each terminal, and accordingly patches that the ME needs to download, fig. 3, update the client configuration database at the server)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Chasman, Caufield and Sudharshana to implement an application descriptor as a data structure describing current installed resources on each device to efficiently generate patches or resources for devices based on the information.

23. For claim 6, Chasman-Caufield-Sudharshana further discloses the application descriptor is stored at a network node, the network node performing administrative tasks with respect to the software application (Sudharshana, fig. 2 and 3, management server storing MIB).

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24. For claim 7, Chasman-Caufield-Sudharshana further discloses the application descriptor is used for at least one of configuration, deployment of the software application (Caufield, abstract, synchronization, Sudharshana, abstract, software update over the air).

25. For claim 8, Chasman-Caufield-Sudharshana further discloses the at least one first resource, the at least one second resource and the at least one third resource are deployed to at least one of the mobile device, the middleware server and the backend server as a function of the application descriptor (Caufield, fig. 2, abstract, synchronizing application data between application server and mobile devices based on role-device-components association, Sudharshana, 3.11, deploy generated patch to MEs).

26. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Multer, in view of Sudharshana.

27. For claim 9, Multer discloses a computer-readable storage medium storing thereon program instructions that, when executed, cause an executing device to form a data structure for representing a distributed software an application descriptor, the data structure including:

a first unique identifier for representing a software application distributed in the network (fig. 12, [0241], an object hierarchy data structure to maintain association among devices, application 1230, and application resources);

at least one second unique identifier specifying at least one computing device to participate in the software application (fig. 12, 13, [0241], device identifying information),

at least one third unique identifier specifying at least one resource type; an association between each of the at least one computing device and the at least one resource type, wherein the association is formed by associating the third unique identifier with the second unique identifier (fig. 12, 13, [0241], device and resource type such as objects (folder, item, item field) for the device);

Multer does not explicitly disclose:

the third unique identifier is associated with the at least one second unique identifier indicating that a resource identified by the at least one resource type is to be installed on the at least one computing device; and

the association is used to generate a fourth unique identifier for the resource to be installed on the at least one computing device.

However, Sudharshana discloses:

the third unique identifier is associated with the at least one second unique identifier indicating that a resource identified by the at least one resource type is to be installed on the at least one computing device (fig. 2, 3.8, Version and resource information, 3.9, Management Information Base (MIB) in the server, storing information for each mobile equipment ME (using terminal IDs—second identifiers as known in the art), and accordingly version and resource information (resource ID—third identifiers) of ME application so that patches or resources can be generated for deployment to each ME)

generating a fourth unique identifier for the resource to be installed on the at least one computing device (fig. 2, 3.11, patch generator generates a unique ID to a new patch generated—resources to be installed on the ME) and an identifier of the respective computing device (3.11, ME ID)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Multer and Sudharshana to implement an application descriptor as a data structure describing current installed resources on each device to efficiently generate patches or resources for devices based on the information.

28. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kjellberg, in view of Sudharshana.

29. For claim 10, Kjellberg discloses a system for administering a distributed software application including a collective behavior of a plurality of computing devices within a network comprising:

a server including a processor (fig. 1, provisioning server);

a database for storing at least one application descriptor (fig. 1, descriptor database 250), the at least one application descriptor representing an association between the distributed software application, computing devices and resources to be associated with the computing devices ([0026], application descriptor is accessed to determine which application or objects is associated with the device); and

at least one administrative module on the server, wherein the processor of the server, utilizing the at least one administrative module and the at least one application descriptor stored in the database, performs administration tasks for the application with respect to the computing devices (fig. 1, application configuration interface 280 allows administration of software applications using application descriptor database 250, using device profile database 230)

Kjellberg does not disclose explicitly that the at least one application descriptor maintains representation of configuration settings for each of the computing devices participating in the distributed software application; wherein the representation of configuration settings includes information about resources currently installed on a respective computing device with respect to the distributed software application.

However, Sudharshana the at least one application descriptor maintains representation of configuration settings for each of the computing devices participating in the distributed software application n(fig. 2, 3.8, Version and resource information, 3.9, Management Information Base (MIB) in the server, storing information for each mobile equipment ME, and accordingly version and resource information of ME application so that patches or resources can be generated for deployment to each ME); wherein the representation of configuration settings includes information about resources currently installed on a respective computing device with respect to the distributed software application (3.8, configuration of a terminal ME, fig. 2, 3.9, 3.11, Management Information Base in the server, storing information for each terminal, and accordingly patches that the ME needs to download, fig. 3, update the client configuration database at the server)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Kjellberg and Sudharshana to implement an application descriptor as a data structure describing current installed resources on each device to efficiently generate patches or resources for devices based on the information.

30. For claim 11, Kjellberg-Sudharshana further discloses the administrative tasks include at least one of configuration, deployment, and updating of the distributed software application (Sudharshana, abstract, administrative task of software update over the air).

Conclusion

31. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

/Kenny S Lin/

Primary Examiner, Art Unit 2452